



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/868,861	06/21/2001	Hideki Kanemoto	L9289.01150	6300

7590 04/09/2004  
Stevens Davis Miller & Mosher  
1615 L Street N W Suite 850  
Washington, DC 20036

EXAMINER

DEAN, RAYMOND S

ART UNIT	PAPER NUMBER
----------	--------------

2684

DATE MAILED: 04/09/2004

S

Please find below and/or attached an Office communication concerning this application or proceeding.

2

# Office Action Summary

Application No.

09/868,861

Applicant(s)

KANEMOTO ET AL.

Examiner

Raymond S Dean

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 - 11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 8 - 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Hamabe (US 6,405,021 B1).

Regarding Claim 8, Hamabe teaches a transmit power control method for creating transmit power control information instructing an increase of transmit power until a base station apparatus can correctly estimate interference signal power against a signal sent from a communication terminal apparatus with which a new radio connection has been established (Figure 7, Column 14 lines 45 - 51, Column 16 lines 24 – 30, both the main base station and the auxiliary base station measure the SIR, which includes the interference signal power, but the auxiliary base station will not be able to correctly estimate the SIR until the mobile station is in the area solely served by said auxiliary base station, the wireless system conducts soft handoff therefore when both base stations transmit TPC information corresponding to an increase in the reverse link

power the mobile station will increase its transmit power and said mobile station will reduce its transmit power when said TPC information from both base stations is opposite).

Regarding Claim 9, Hamabe teaches a transmit power control method for creating transmit power control information so that the count of transmit power control information instructing an increase of transmit power created so far does not fall below the count of transmit power control information instructing a decrease of transmit power (Column 14 lines 28 - 38, the target SIR is the count for both the TPC information instructing the increase and decrease in transmit power thus the count of transmit power control information instructing an increase of transmit power will not fall below the count of transmit power control information instructing a decrease of transmit power) until a base station apparatus can correctly estimate interference signal power against a signal sent from a communication terminal apparatus with which a new radio connection has been established (Figure 7, Column 14 lines 45 - 51, Column 16 lines 24 - 30, both the main base station and the auxiliary base station measure the SIR, which includes the interference signal power, but the auxiliary base station will not be able to correctly estimate the SIR until the mobile station is in the area solely served by said auxiliary base station).

Regarding Claim 10, Hamabe teaches a transmit power control method for creating transmit power control information whose content is opposite to that of the immediately preceding transmit power control information (Column 14 lines 28 - 38, the SIR is measured periodically which means that there will be times when the current

measured SIR will be greater than the target SIR and the previous measured SIR of the previous measuring period will less than said target thus the corresponding TPC information content for the previous measuring period and the current measuring period will be opposite to one another) until a base station apparatus can correctly estimate interference signal power against a signal sent from a communication terminal apparatus with which a new radio connection has been established (Figure 7, Column 14 lines 45 - 51, Column 16 lines 24 – 30, both the main base station and the auxiliary base station measure the SIR, which includes the interference signal power, but the auxiliary base station will not be able to correctly estimate the SIR until the mobile station is in the area solely served by said auxiliary base station).

Regarding Claim 11, Hamabe teaches all of the claimed limitations recited in Claim 8. Hamabe further teaches the base station apparatus starts to measure interference signal power in advance for a communication terminal apparatus with which to establish a new radio connection (Figure 7, Column 14 lines 45 - 51, Column 16 lines 24 – 30, the auxiliary base station starts to transmit TPC information to the mobile station before establishing a sole link with said mobile station which means that said base station is measuring the SIR, which includes the interference signal power)

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 – 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamabe (US 6,405,021 B1) in view of Schmidl et al. (US 6,404,826 B1).

Regarding Claim 1, Hamabe teaches a base station (Figure 11, Column 13 lines 57 - 59) comprising: a reference value deciding means for deciding whether the calculated signal to interference ratio is greater than a reference value or not (Column 14 lines 28 - 38) and TPC creating means for creating transmit power control information to instruct either an increase or decrease of transmit power based on the decision result of said reference value deciding means (Column 14 lines 28 – 38).

Hamabe does not specifically teach a reception SIR calculating means for calculating a signal to interference ratio using a value obtained by averaging interference signal power for several slot times.

Schmidl teaches a reception SIR calculating means for calculating a signal to interference ratio using a value obtained by averaging interference signal power for several slot times (Column 2 lines 15 – 21).

Hamabe (Figure 8, Column 12 lines 23 - 27) and Schmidl both teach a wireless system with power control that transmits and receives frames of data thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the SIR calculation means taught by Schmidl in the wireless system of Hamabe such that there will be an accurate calculation of said SIR.

Regarding Claim 2, Hamabe in view of Schmidl teaches all of the claimed limitations recited in Claim 1. Schmidl further teaches wherein when the number of

slots used to calculate interference signal power by averaging falls short of a predetermined number, the TPC creating means creates transmit power control information instructing an increase of transmit power (Column 4 lines 33 – 42, in order for the target SIR to be created there must be a particular number for both the RSSI and ISSI, which means that there must be a particular number of time slots, thus the variation of the calculated SIR can be caused by said RSSI and ISSI falling short of said particular number and meeting said particular number).

Regarding Claim 3, Hamabe in view of Schmidl teaches all of the claimed limitations recited in Claim 1. Schmidl further teaches wherein when the number of slots used to calculate interference signal power by averaging falls short of a predetermined number, the TPC creating means creates transmit power control information (Column 4 lines 33 – 42, in order for the target SIR to be created there must be a particular number for both the RSSI and ISSI, which means that there must be a particular number of time slots, thus the variation of the calculated SIR can be caused by said RSSI and ISSI falling short of said particular number and meeting said particular number), Hamabe further teaches the count of transmit power control information instructing an increase of transmit power created so far does not fall below the count of transmit power control information instructing a decrease of transmit power (Column 14 lines 28 - 38, the target SIR is the count for both the TPC information instructing the increase and decrease in transmit power thus the count of transmit power control information instructing an increase of transmit power will not fall below the count of transmit power control information instructing a decrease of transmit power).

Regarding Claim 4, Hamabe in view of Schmidl teaches all of the claimed limitations recited in Claim 1. Schmidl further teaches wherein when the number of slots used to calculate interference signal power by averaging falls short of a predetermined number, the TPC creating means creates transmit power control information (Column 4 lines 33 – 42, in order for the target SIR to be created there must be a particular number for both the RSSI and ISSI, which means that there must be a particular number of time slots, thus the variation of the calculated SIR can be caused by said RSSI and ISSI falling short of said particular number and meeting said particular number) whose content is opposite to that of the immediately preceding transmit power control information (Column 4 lines 33 – 42, the SIR is measured periodically which means that there will be times when the current measured SIR will be greater than the target SIR and the previous measured SIR of the previous measuring period will less than said target SIR thus the corresponding TPC information content for the previous measuring period and the current measuring period will be opposite to one another).

Regarding Claim 5, Hamabe in view of Schmidl teaches all of the claimed limitations recited in Claim 1. Schmidl further teaches wherein when the number of slots used to calculate interference signal power by averaging satisfies a predetermined number, the TPC creating means creates transmit power control information (Column 4 lines 33 – 42, in order for the target SIR to be created there must be a particular number for both the RSSI and ISSI, which means that there must be a particular number of time slots, thus the variation of the calculated SIR can be caused by said RSSI and ISSI falling short of said particular number and meeting said particular number) instructing a



decrease of transmit power when the signal to interference ratio is greater than a reference value (Column 4 lines 33 – 42) and creates transmit power control information instructing an increase of transmit power when the signal to interference ratio is equal to or smaller than the reference value (Column 4 lines 33 – 42).

Regarding Claim 6, Hamabe in view of Schmidl teaches all of the claimed limitations recited in Claim 1. Hamabe further teaches wherein the reception SIR calculating means starts to measure interference signal power for a communication terminal apparatus with which to establish a new radio connection (Figure 7, Column 14 lines 45 - 51, Column 16 lines 24 – 30, both the main base station and the auxiliary base station measure the SIR, which includes the interference signal power) prior to starting control of uplink transmit power of the communication terminal apparatus based on the transmit power control information inserted into the downlink (Figure 7, Column 14 lines 45 – 51, Column 16 lines 24 – 30, both the main base station and the auxiliary base station measure the SIR and send TPC information prior to the mobile station being served solely by said auxiliary base station, said auxiliary base station will solely control the uplink transmit power of the mobile station when said mobile station is served solely by said auxiliary base station).

Regarding Claim 7, Hamabe in view of Schmidl teaches all of the claimed limitations recited in Claim 1. Hamabe further teaches a communication terminal apparatus that carries out radio communication with the base station apparatus and controls transmit power based on transmit power control information sent from said base station apparatus (Column 14 lines 28 – 38).

***Conclusion***

5. Any inquiry concerning this communication should be directed to Raymond S. Dean at telephone number (703) 305-8998.

If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung, can be reached at (703) 308-7745. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology center 2600 only)

Hand – delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377



  
**NAY MAUNG**  
**SUPERVISORY PATENT EXAMINER**